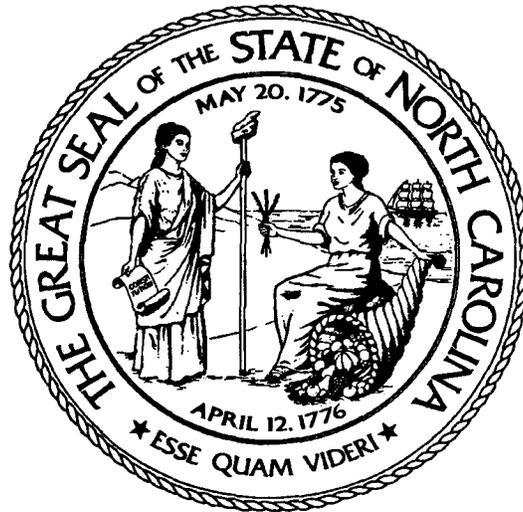


**LEGISLATIVE
RESEARCH COMMISSION**

AGRIBUSINESS PLANT VARIANCE



**REPORT TO THE
1991 GENERAL ASSEMBLY
OF NORTH CAROLINA
1991 SESSION**

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STATE OF NORTH CAROLINA
LEGISLATIVE RESEARCH COMMISSION
STATE LEGISLATIVE BUILDING
RALEIGH 27611



December 14, 1990

TO THE MEMBERS OF THE 1991 GENERAL ASSEMBLY:

The Legislative Research Commission herewith submits to you for your consideration its final report on the land application of agribusiness residuals. The report was prepared by the Legislative Research Commission's Committee on Agribusiness Plant Variance pursuant to Section 2.2(18) of Chapter 802 of the 1989 Session Laws.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Mavretic".

Josephus L. Mavretic
Speaker

A handwritten signature in cursive script, appearing to read "Henson P. Barnes".

Henson P. Barnes
President Pro Tempore

Cochairmen
Legislative Research Commission

1989-1990

LEGISLATIVE RESEARCH COMMISSION

MEMBERSHIP

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PREFACE

The Legislative Research Commission, established by Article 6B of Chapter 120 of the General Statutes, is a general purpose study group. The Commission is co-chaired by the Speaker of the House and the President Pro Tempore of the Senate and has five additional members appointed from each house of the General Assembly. Among the Commission's duties is that of making or causing to be made, upon the direction of the General Assembly, "such studies of and investigations into governmental agencies and institutions and matters of public policy as will aid the General Assembly in performing its duties in the most efficient and effective manner" (G.S. 120-30.17(1)).

At the direction of the 1989 General Assembly, the Legislative Research Commission has undertaken studies of numerous subjects. These studies were grouped into broad categories and each member of the Commission was given responsibility for one category of study. The Co-chairs of the Legislative Research Commission, under the authority of G.S. 120-30.10(b) and (c), appointed committees consisting of members of the General Assembly and the public to conduct the studies. Co-chairs, one from each house of the General Assembly, were designated for each committee.

The study of agribusiness plant variances was authorized by Section 2.2(18) of Chapter 802 of the 1989 Session Laws (1989 Session). That act states that the Commission may consider House Bill 1304 in determining the nature, scope and aspects of the study. The relevant portions of Chapter 802 are included in Appendix A. The Legislative Research Commission grouped this study in its Agriculture area under the direction of Representative Fred Bowman. The Committee was chaired by Senator Jim Speed and Representative John Brown. The full membership of the Committee is listed in Appendix B of this report. A committee notebook containing

the committee minutes and all information presented to the committee is filed in the Legislative Library.

COMMITTEE PROCEEDINGS

September 25, 1990

The Committee met September 25, 1990 to review actions taken by the General Assembly during the 1990 session concerning land application of agribusiness residuals. Mr. Linwood Jones, Committee Counsel, briefed the Committee on the history and current status of the agribusiness residuals legislation. The text of Mr. Jones' remarks is set out below:

For many years, the Department of Environment, Health and Natural Resources (formerly, "NRCD") has regulated the application of waste materials onto land. Land application has been and remains a viable method of disposing of sewage sludges, industrial wastes, and other processing wastes and byproducts. A person or business may apply such wastes to the land only after receiving a permit from the Department. The permit restricts the sites to which the material may be applied, the conditions under which it may be applied, and the rates at which it may be applied.

During the 1989 session, Representative Bowman introduced a bill to allow food processing wastes to be applied to the land without a permit. The bill was modeled after similar New York legislation. The legislation did not pass as drafted but was rewritten to allow the issue to be studied by the Legislative Research Commission. This marked the beginning of our study committee -- the LRC Committee on Agribusiness Plant Variances.

The study committee met three times earlier this year to discuss the issue of food byproduct disposal. At its final meeting prior to the short session, the Committee recommended new legislation that would allow nonhazardous food wastes to be applied to the land in accordance with best management practice guidelines adopted by the Agricultural Extension Service.

The proposed legislation was again introduced by Representative Bowman and was referred to the House Basic Resources Committee. Prior to any discussion on the bill in committee, the sponsor and other interested parties discussed alternative legislation that would be acceptable to everyone. The parties involved, representing the Department, other agencies of State government, the food processing industry, and the environment, fashioned a compromise. The compromise legislation was substituted for the original bill and was eventually enacted into law.

The new law was enacted as Chapter 880 (House Bill 2282). The law does the following:

- (1) Requires the Environmental Management Commission to begin rule-making proceedings to refer to food byproducts as something other than "sludges." This does not require EMC to actually change the name; it merely requires that they consider the name change. The proposed definitional change is attached.
- (2) Creates a 5-member panel to assist the Secretary of DEHNR in evaluating the following issues:
 - (a) Whether the permit process can be expedited;
 - (b) Whether the criteria for the land application of food wastes or certain food wastes can be modified; and
 - (c) Whether regulations can be developed to effectively deal with emergency disposal needs.

The Secretary must report to the LRC Agribusiness Committee by November 1, 1990 and again to the full General Assembly before the 1991 session convenes.

After Mr. Jones' remarks, Mr. Dennis Ramsey introduced the 5-member panel that would advise the Secretary. The five members represent the Department (Dennis Ramsey), the land application contractors (Frank Post), the Water Pollution Control Federation (Trille Mendenhall), the Department of Agriculture (Ray Campbell), and the Agricultural Extension Service (Joseph Zublena). Mr. Ramsey briefed the Committee on the progress of the advisory panel and some of the ideas that they and the

Environmental Management Commission have under consideration. These ideas will be presented in the Secretary's preliminary report (November 1, 1990) to the Agribusiness Committee.

November 20, 1990

The Committee held its final meeting on November 20, 1990. Mr. Linwood Jones, Counsel to the Committee, briefed the Committee on the preliminary report of the Department of Environment, Health, and Natural Resources (see Exhibit C). A copy of the Department's preliminary report is included as Appendix D of this report.

The Committee decided not to take any action on the Department's report since many of the Committee members felt they would need more time to review the report and its conclusions before they could endorse it. Since the Department must make a final report on these issues to the full General Assembly in January, 1991, the Committee decided to refer its comments and questions on the report to the Department and the advisory panel, with the understanding that they would be reviewed further in the preparation of the Department's final report. The Committee then voted to make a report to the LRC, without endorsing or objecting to the DEHNR report. The DEHNR report is included for reference only.

This LRC report contains no recommended legislation. The Committee and the Department have been attempting to resolve the issues under study through regulatory changes by the Environmental Management Commission. If successful, no legislation would be required.

APPENDIX A

GENERAL ASSEMBLY OF NORTH CAROLINA 1989 SESSION RATIFIED BILL

CHAPTER 802 SENATE BILL 231

AN ACT TO AUTHORIZE STUDIES BY THE LEGISLATIVE RESEARCH COMMISSION, TO CREATE AND CONTINUE VARIOUS COMMITTEES AND COMMISSIONS, TO MAKE APPROPRIATIONS THEREFOR, AND TO DIRECT VARIOUS STATE AGENCIES TO STUDY SPECIFIED ISSUES.

The General Assembly of North Carolina enacts:

PART I. TITLE

Section 1. This act shall be known as "The Studies Act of 1989."

...

PART II.-----LEGISLATIVE RESEARCH COMMISSION

Sec. 2.1. The Legislative Research Commission may study the topics listed below. Listed with each topic is the 1989 bill or resolution that originally proposed the issue or study and the name of the sponsor. The Commission may consider the original bill or resolution in determining the nature, scope and aspects of the study. The topics are:

- (1) State Ports--study continued (S.J.R. 96 - Barker, H.B. 133 - Hall), Lease and Renegotiation of Contracts of the North Carolina Railroad Company and the Atlantic and North Carolina Railroad Company,
- (2) Development of a State Strategy for the Management of Solid Waste (S.J.R. 112 - Speed, S.B. 1214 - Basnight) and Infectious Wastes (H.B. 1045 - Diggs),
- (3) Worker Training Trust Fund (S.B. 271 - Parnell),
- (4) Tourism's Growth and Effect--study continued (S.B. 297 - Block, H.B. 379 - Warren) and Travel/Tourism Reorganization (H.B. 1132 - Perdue),
- (5) Deregulation of Revolving Credit and Authorization of Credit Card Banks (S.B. 377 - Staton) and Linked Deposits (H.B.1910 - Locks),
- (6) Administrative Procedure Act's Rule-Making Process (S.B. 535 - Johnson) and Office of Administrative Hearings and the Administrative Rules Review Commission (S.J.R. 1003 -Martin of Guilford, H.B. 1459 - Michaux),
- (7) "Willie M." Programs (S.J.R. 887 - Block),

- (8) State Procurement Contracts to Minority Business Enterprises (S.B. 927 - Hunt of Durham) and Small Business Technical Assistance Programs (H.J.R. 1514 - Colton),
- (9) Consumer Protection Issues, including those relating to the Elderly (S.B. 1261 - Barker),
- (10) State Marine Patrol (S.B. 1267 - Barker),
- (11) Sports Fishing Licenses (S.B. 1284 - Barker),
- (12) Revenue Laws--study continued, including the impact of 1989 tax law changes (H.J.R. 3 - Lilley) and Local Revenue Sources Options (S.B. 1298 - Odom),
- (13) Care Provided by Rest Homes, Intermediate Care Facilities, and Skilled Nursing Homes--study continued (H.J.R. 173 - Easterling), Necessity for Certificates of Need, and Continuing Care Issues,
- (14) Health Care/Insurance Costs Issues, including but not limited to, Availability, Benefits, Costs, Portability, Long-Term Care Insurance (H.B. 202 - Wisner), Health Insurance Costs (H.B. 961 - Perdue, S.B. 1068 - Johnson, Joe), Health Insurance (H.J.R. 1159 - Duncan), Infertility Treatment Coverage (H.B. 1187 - Payne), Mammogram/Pap Smear Coverage (H.B. 1014 - Barnes), and Health Care Insurance Coverage (H.B. 1242 - Mills),
- (15) Development of a State Strategy for the Protection of All Groundwater Resources (H.J.R. 554 - DeVane, S.J.R. 367 - Winner),
- (16) Surface Water Quality and Resources Issues, Including Interbasin Transfer, Albemarle-Pamlico Estuarine (H.J.R. 33 - Ethridge, B.), Coastal Water Quality -- study continued (H.J.R. 37 - Ethridge, B.), Haw in Scenic River System (H.B. 1224 - Hackney), Pesticides (H.J.R. 1399 - Holt), Water Resources Planning (H.B. 1945 - Payne), Toxaway River (H.B. 1955 - Colton), and Yadkin River Use and Protection (S.B. 1182 - Kaplan),
- (17) Insanity Verdict (H.B. 1364 - Rhodes), and Guilty but Insane Verdict (H.B. 1372 - Sizemore),
- (18) Agriculture Study (H.B. 1362 - Brown), Agribusiness Plant Variances (H.B. 1304 - Bowman), Fallow Deer (H.J.R. 1924 - James),
- (19) Homeless Persons (H.B. 2018 - Greenwood, S.B. 1290 - Martin of Guilford),
- (20) State Information Processing Needs and Cost -- study continued (S.B. 47 - Royall),
- (21) Sports Fishing Licenses (S.B. 1284 - Barker),
- (22) Proprietary Schools (S.B. 854 - Martin, W.),
- (23) Public Employees' Day Care and Medical and Dental Benefits.

Sec. 2.2. Legislative Activity Between Legislative Sessions and Procedures to Shorten the Legislative Session. The Legislative Research Commission may study the procedures of this State's, other states' and other legislative bodies' practices and procedures regulating legislative and study activity and may make recommendations as to changes in law, procedures and rules that will lead to greater efficiency in the legislative process while safeguarding the rights of all members of the General Assembly and of the citizens in this State's legislative process.

Sec. 2.3. State Capital Assets and Improvements (S.B. 1240 - Sherron). The Legislative Research Commission may study the:

- (1) Inventory of State capital assets and the use of those assets,
- (2) Issue of preventive maintenance for State buildings, and
- (3) Need and feasibility of:

- a. Establishing in the State budget a reserve for repairs and renovations and the administration of such a reserve, and
- b. Charging rent to State agencies using State buildings.

Sec. 2.4. Committee Membership. For each Legislative Research Commission Committee created during the 1989-1991 biennium, the Cochairmen of the Commission each shall appoint a minimum of seven members.

Sec. 2.5. Reporting Dates. For each of the topics the Legislative Research Commission decides to study under this act or pursuant to G.S. 120-30.17(1), the Commission may report its findings, together with any recommended legislation, to the 1990 Session of the 1989 General Assembly or the 1991 General Assembly, or both.

Sec. 2.6. Bills and Resolution References. The listing of the original bill or resolution in this Part is for reference purposes only and shall not be deemed to have incorporated by reference any of the substantive provisions contained in the original bill or resolution.

Sec. 2.7. Funding. From the funds available to the General Assembly, the Legislative Services Commission may allocate additional monies to fund the work of the Legislative Research Commission.

...

PART XXV.-----EFFECTIVE DATE

Sec. 25.1. This act shall become effective July 1, 1989.

In the General Assembly read three times and ratified this the 12th day of August, 1989.

APPENDIX B

MEMBERSHIP OF LRC COMMITTEE ON AGRIBUSINESS PLANT VARIANCES

LRC Member in Charge:

Rep. J. Fred Bowman
814 N. Graham-Hopedale Road
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(919)228-7521

Members

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Sen. Wendell H. Murphy
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Rose Hill, NC 28458
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Sen. David R. Parnell
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Sen. R. C. Soles, Jr.
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Mr. Billy Yeargin
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Rep. Charles W. Albertson
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Mr. John C. Allen
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Snow Camp, NC 27349

Rep. H. Clayton Loflin
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Monroe, NC 28110

Rep. Edith L. Lutz
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Clerk:
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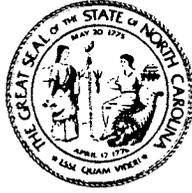
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LEGISLATIVE INFORMATION OFFICER
TELEPHONE: (919) 733-4200

November 20, 1990

MEMORANDUM:

TO: LRC Agribusiness Plant Variance Committee
FROM: Linwood Jones, Counsel *LJ*
RE: DEHNR Preliminary Report to the Committee

During the 1990 session, the General Assembly directed the Secretary of the Department of Environment, Health, and Natural Resources to study the regulatory system governing land application of food residuals and to report back to the LRC Agribusiness Committee by November 1, 1990. The LRC Agribusiness Committee directed the Department to bring the report to today's meeting. The report is a preliminary report to the Committee; the Department will make a final report to the General Assembly after the Committee has terminated its activities.

The report discusses the actions taken or recommended by the Department with respect to the regulatory framework for land application permits. The Department's proposals are as follows:

- (1) Change the name of food processing waste from "sludge" to "residues from agricultural products and processing." This is a name change only; the regulations would still apply equally to sludge and residues.
- (2) Modify the land application permit and provide training for persons involved in the permit and application process.
- (3) Best Management Practices ("BMP's") may be developed for any type of agricultural residual. For residuals low in volume or in organic and nutrient levels, BMP's may be considered by the Department as a substitute for some of the information required in the normal permit. If the BMP's are acceptable for the particular agricultural residual, a permit is still required for land application.

The purpose of the preliminary report is to give the LRC Agribusiness Committee an opportunity to react to the Department's recommendations prior to the Department's final report to the General Assembly. In reviewing the report, keep in mind the following points about the recommendations:

- (1) The recommendations do not eliminate DEM's regulatory control over food processing wastes. They do not eliminate the requirement for a permit. They do, however, offer the potential for a streamlined approval process for certain types of food residuals. This would be accomplished through the development of best management practice guidelines for those residuals. The extent to which the BMPs would relieve the generator or applicator of regulatory restrictions would depend on the type of food residual and its potential adverse environmental impacts.
- (2) The recommendations do not affect byproducts that are currently rendered (such as poultry offal).
- (3) The recommendations distinguish food residuals, as a class of waste, from all other sludges. This broad distinction is in name only.
- (4) Implementing the recommendations will require rule changes by the Environmental Management Commission. Changing the rules requires public hearings and opportunity for public comment. Public reaction will be critical in the development of these rules because of the sensitive nature of all environmental regulatory changes.
- (5) The process envisioned in the DEHNR preliminary report for the development of BMPs is deliberative. The proposed rule change must go through public hearing and EMC approval. Resources must then be provided to research and develop appropriate BMPs for specified food residuals. The time and expense involved in the development and approval of BMPs will most likely put us into late 1992 or the 1993 session of the General Assembly at the earliest before we can fully test the new regulatory approach.
- (6) Funding will be a key element in the successful development of BMP's. It appears that the BMP process, if approved by EMC, cannot function without the financial resources to support research, testing, and related expenses of BMP development.



State of North Carolina
 Department of Environment, Health, and Natural Resources

512 North Salisbury Street • Raleigh, North Carolina 27611

James G. Martin, Governor

William W. Cobey, Jr., Secretary

November 1, 1990

Representative John W. Brown
 Senator James Speed
 General Assembly
 Legislative Building
 Raleigh, NC 27611

Subject: Preliminary Findings and Recommendations
 House Bill 2282
 Secondary Nutrient Recycling

Dear Sirs:

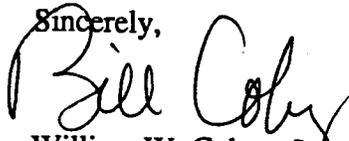
In accordance with the requirements of House Bill 2282, I have completed my preliminary findings and recommendations on the land application of food processing by-products in North Carolina. A copy of this report is attached for your consideration.

Due to the broad subject and the limited time that was available to conduct this evaluation, we have not been able to study all aspects of the program or to make detailed recommendations on all types of agribusiness materials. We will however continue to work with the regulated industries on these issues as we formalize our final report for submittal to the General Assembly prior to the 1991 session. We will also continue to work with the industries after our submittal to make revisions to the program as the need arises.

I would like to take this opportunity to thank the members of the General Assembly for the spirit of cooperation that was shown during the review process. I would also like to thank the representatives of the North Carolina Department of Agriculture, the North Carolina Agricultural Extension Service, the North Carolina Water Pollution Control Federation and the state's land application contractors. Their efforts and vast experience in the area of agricultural residual management were extremely valuable.

I look forward to your comments on this report and to working with you on this very important issue in the future. With your help, we will be able to submit a final report to the General Assembly on or before the first day of the convening of the 1991 General Assembly.

Sincerely,


 William W. Cobey, Jr.

WWCjr/GTE

cc: George T. Everett

Attachment

13

PRELIMINARY FINDINGS AND RECOMMENDATIONS

IMPLEMENTATION OF HOUSE BILL 2282

AN ACT TO ENCOURAGE RECYCLING OF FOOD PROCESSING BY-PRODUCTS AND TO REQUIRE REPORTS FROM THE DEPARTMENT OF ENVIRONMENT, HEALTH, AND NATURAL RESOURCES CONCERNING THE LAND APPLICATION OF FOOD PROCESSING BY-PRODUCTS

In accordance with the requirements of House Bill 2282, ratified July 9th, 1990, an evaluation was conducted on the land application of food processing by-products in North Carolina. This review was conducted by the staff of the Division of Environmental Management (DEM) in consultation with the North Carolina Department of Agriculture, the North Carolina Agricultural Extension Service, the North Carolina Water Pollution Control Federation and the state's land application contractors. A Section by Section review and recommendations are as follows:

SECTION I

This Section required the Environmental Management Commission to initiate rule-making procedures within 90 days following ratification to allow the by-products of food processing, food manufacturing, or fermentation processes to be designated by some name other than "sludge" in the permits for land application issued pursuant to NCGS 143-215.1.

A new definition has been developed and approved by the Water Quality Committee of the Environmental Management Commission. The definition is as follows:

"Residue from Agricultural Products and Processing" means solids, semi-solids or liquid residues from the food and beverage processing and handling; silviculture; agriculture; and aquaculture operations that are non-toxic, non-hazardous and contain no domestic wastewater.

This definition was discussed with the Agribusiness Plant Variance Study Commission on September 25, 1990. Several members of the Study Commission recommended that the definition be studied further to see if it could be rewritten to remove the reference to residue since it was seen as being a negative term.

After looking at various options, it was concluded that residue was still the most appropriate term to describe the materials that were being

permitted by our agency. In order for a definition to be effective, it must be very clear and concise. We feel that residue meets this criteria. If a term such as by-product were used, it would be confusing, since it might be perceived to mean that by-products that were not being land applied to the soil would also need permits from DEM. If a more appropriate term comes forth during the public notice period on this definition, we will reconsider the definition accordingly.

SECTION 2(1)

This Section required the Secretary to review the permitting process to determine if the processing times could be reduced.

In evaluating the permitting process, it was determined that a major factor in delaying the issuance of permits was the type of information required in the permit application was not adequate to ensure effective review by the Division's engineering staff. In order to resolve this problem, a new permit application is being developed that will more explicitly detail the information required. This new application form will be in use by December 31, 1990. As new procedures are developed to address land application systems not projected to have any significant environmental impacts, shorter application forms will be developed for these classes of materials.

DEM has also developed a new permit format that is used with all land application systems. This permit allows the permittees to know what conditions will be placed in their permits before they are issued; therefore, if the applicant wishes to demonstrate that their residue is in some way different from other residues and specific conditions removed or altered, they can do so before the permit is issued.

In order to assist the regulated public to better understanding all aspects of land management systems (including permitting requirements), a training course is being developed in conjunction with the permittees, the state's land application contractors, N. C State University and the North Carolina Department of Agriculture. This course will be in place by early 1991.

SECTION 2(2)

This Section required the Secretary to evaluate current regulations and permit requirements that can be modified to increase the availability of application sites, expedite the permit application process and recognize the appropriate distinguishing characteristics of food waste.

Due to the very broad types of materials that will be covered by the new proposed definition, it is difficult to write simple regulation modifications that would adequately address each of them. There are many materials that should be considered differently than sludge during the permitting process. Best Management Practices (BMPs) could and should be developed for these materials. These BMPs would determine how these materials could be land applied to the soil in an environmental safe manner. BMPs could be utilized for projects that are both emergencies and routine. Although permits would still be required, the permitting process would be made much simpler for the applicant.

Some other materials present similar or greater problems as sludge with respect to odors, surface water protection, groundwater protection and acceptable loading rates. These are the materials that should be required to meet all of the permitting requirements that are now in place.

Please find attached preliminary draft regulations that are under review. Upon concurrence of the Water Quality Committee these draft regulations will be taken to the Environmental Management Commission with a request to go to rulemaking in the spring of 1991. These regulations as drafted, acknowledge that there is a need for various levels of review for the various materials.

SECTION 2(3)

This Section required the Secretary to evaluate the issue of emergency disposal of food waste and to recommend the appropriate methods or regulatory criteria to meet these needs on a timely basis.

In the various discussions that were held on what would constitute an emergency situation, it was determined that there should be very few true emergency situations. Most of the past cases that were discussed could have been prevented with adequate planning. There are however some cases that are true emergencies. These are usually due to power outages or accidents. In cases such, as spoiled milk, that can and do occur, BMPs need to be developed that are very conservative so that DEM's Regional Offices can work directly with the permittee to approve application sites as quickly as possible. The Draft regulations that are attached also address this situation.

CONCLUSIONS AND SUMMARY:

- A. A new definition is needed to distinguish "agricultural products and processing residues" from "sludge".
- B. Until such time as a new definition is approved, DEM will, upon request, use the new draft definition in any new or modified permit for agricultural products and processing residues.
- C. Permits should still be required for all land application systems of agricultural products and processing residues. The permitting requirement will provide the permittees, the land owners and the environment with a higher level of protection.
- D. DEM is developing draft regulations that will address the issue of agricultural products and processing residues and how they should be permitted. These regulations are anticipated to go to public notice in the spring of 1991.
- E. DEM has developed and put in place a new standardized permit document, to expedite permit application processing.
- F. DEM has developed a new permit application which is targeted to be in use by December 31, 1990.
- G. DEM is designing new training courses for land application permittees and operators and this training is targeted for implementation in the spring of 1991.
- H. DEM will be working with the permittees and other interested parties to develop Best Management Practices (BMPs) for many agricultural products and processing residues. Additional resources to either the Department of Agriculture or the Agricultural Extension Service to help develop these BMPs would expedite development of such BMP measures.
- I. As BMPs are developed, the Director of DEM will evaluate each and determine the appropriateness for delegation of the permitting authority of these type facilities to the DEM regional offices.
- J. DEM attempts to process all permit applications as quickly as possible, however, the number of permits received and the limited number of review staff results in longer review times. Additional resources would assist in addressing this issue.

SECTION .0200 - WASTE NOT DISCHARGED TO SURFACE WATERS

.0201 PURPOSE

These rules set forth the requirements and procedures for application and issuance of permits for the following systems which do not discharge to surface waters of the State:

- (1) Sewer systems;
- (2) disposal systems;
- (3) treatment works; and
- (4) sludge disposal systems.

History Note: Statutory Authority G.S. 143-215.3(a)(1);
143-215.1;
Eff. February 1, 1976;
Amended Eff. November 1, 1987.

.0202 SCOPE

These regulations apply to all persons proposing to construct, alter, extend, or operate any sewer system, treatment works disposal system or ~~sludge-disposal~~ land application system which does not discharge to surface waters of the State, including systems which discharge waste onto or below land surface. However, these regulations do not apply to sanitary sewage systems which are regulated by the Department of Human Resources.

History Note: Statutory Authority G.S. 143-215.3(a)(1);
143-215.1; 130A-335;
Eff. February 1, 1976;
Amended Eff. November 1, 1987.

.0203 DEFINITION OF TERMS

The terms used in this section shall be as defined in G.S. 143-213 except for G.S. 143-213(15) and (18)a. and as follows:

- (1) "Agronomist" means an individual who is a Certified Professional Agronomist by ARCPACS (American Registry of Certified Professionals in Agronomy, Crops and Soil) or an individual with a demonstrated knowledge in agronomy.
- (2) "Bedrock" means any consolidated or coherent and relatively hard, naturally-formed mass of mineral matter which cannot be readily excavated without the use of explosives or power equipment.
- (3) "Building" means any structure or part of a structure built for the separate shelter or enclosure of persons, animals, chattels, or property of any kind and which has enclosing walls for at least 50 percent to its perimeter. Each unit separated from other units by a four (4) hour fire wall shall be considered as a separate building.
- (4) "Building drain" means that part of the lowest piping of a

- drainage system which receives waste from inside the building and conveys it to the building sewer which begins ten feet outside the building wall.
- (5) "Building sewer" means that part of the horizontal piping of a drainage system which receives the discharge of the building drain and conveys it to a public sewer, private sewer, or on-site sewage disposal system.
 - (6) "C horizon" means the unconsolidated material underlying the soil solum, which may or may not be the same as the parent material from which the solum is formed but is below the zones of major biological activity and exhibits characteristics more similar to rock than to soil.
 - (7) "Director" means the Director of the Division of Environmental Management, Department of Natural Resources and Community Development or his delegate.
 - (8) "Dedicated site" means a site:
 - (A) to which sludge is applied at rates or frequencies greater than agronomically justifiable, or where the primary use of the land is for sludge disposal and crop or ground cover production is of secondary importance, or
 - (B) any sludge disposal site designated by the Director.
 - (9) "Division" means the Division of Environmental Management, Department of Natural Resources and Community Development.
 - (10) "Groundwaters" means those waters in the saturated zone of the earth.
 - (11) "Industrial Wastewater" means all wastewater other than sewage and includes:
 - (A) wastewater resulting from any process of industry or manufacture, or from the development of any natural resource;
 - (B) Wastewater resulting from processes of trade or business, including wastewater from laundromats and car washes, but not wastewater from restaurants;
 - (C) Stormwater will not be considered to be an industrial wastewater unless it is contaminated with an industrial wastewater;
 - (D) Any combination of sewage and industrial wastewater.
 - (12) "Pollutant" means waste as defined in G.S. 143-213(18).
 - (13) "Private sewer" means any part of a sewer system which collects wastewater from more than one building, is privately owned and is not directly controlled by a public authority.
 - (14) "Professional Engineer" means a person who is presently registered and licensed as a professional engineer by the North Carolina State Board of Registration For Professional Engineers and Land Surveyors.
 - (15) "Public or community sewage system" means a single system of sewage collection, treatment, and/or disposal owned and operated by a sanitary district, a metropolitan sewage district, a water and sewer authority, a county, a

- municipality, or a public utility.
- (16) "Public sewer" means a sewer located in a dedicated public street, roadway, or dedicated public right-of-way or easement which is owned or operated by any municipality, county, water or sewer district, or any other political subdivision of the State authorized to construct or operate a sewer system.
- (17) "Rapid infiltration system" means rotary distributor systems or other similar systems that dispose of tertiary treated waste at high surface area loading rates.
- (18) "Sewage" means the liquid and solid human waste, and liquid waste generated by domestic water-using fixtures and appliances, from any residence, place of business, or place of public assembly. Sewage does not include wastewater that is totally or partially industrial wastewater, or any other wastewater not considered to be domestic waste.
- (19) "Sewer system" means pipelines or conduits, pumping stations, and appliances appurtenant thereto, used for conducting wastes to a point of ultimate disposal.
- (20) "Sludge" means any solid or semisolid waste, other than residues from agricultural products and processing, generated from a wastewater treatment plant, water supply treatment plant or air pollution control facility permitted under the authority of the Environmental Management Commission.
- (21) "Soil Scientist" means an individual who is a Certified Professional in Soils through the N.C. Soil Science Society or a Certified Professional Soil Scientist or Soil Specialist by ARCPACS (American Registry of Certified Professionals in Agronomy, Crops and Soils) or an individual with a demonstrated knowledge in soils science.
- (22) "Staff" means the staff of the Division of Environmental Management, Department of Natural Resources and Community Development.
- (23) "Subsurface ground absorption sewage disposal system" means a waste disposal method which distributes waste beneath the ground surface and relies primarily on the soil for leaching and removal of dissolved and suspended organic or mineral wastes. Included are systems for public or community sewage systems and systems which are designed for the disposal of industrial wastes. Land application systems utilizing subsurface sludge injection are not included.
- (24) "Surface waters" means all waters as defined in G.S. 143-212(6) except underground waters.
- (25) "Toxicity test" means a test for toxicity conducted using the procedures contained in 40 CFR 261, Appendix II as amended through July 1, 1986 or any later adopted amendments or additions of this document as is allowed by G.S. 150B-14(c).

- (26) "Treatment works or disposal system which does not discharge to surface waters" means any treatment works or disposal system which is designed to:
- (A) operate as closed system with no discharge to waters of the state, or
 - (B) dispose of wastes, including residual sludges, after treatment to the surface of the land, or
 - (C) dispose of wastes through a subsurface absorption system.
- (27) "Underground waters" means all waters in the subsurface including waters in the unsaturated and saturated zone.
- (28) "Residues from Agricultural Products and Processing" means solids, semi-solids or liquid residues from the food and beverage processing and handling; silviculture; agriculture; and aquaculture operations that are non-toxic, non-hazardous and contain no domestic wastewater.

History Note: Statutory Authority G.S. 143-215.3(a)(1);
143-213; 130A-335;
Eff. February 1, 1976;
Amended Eff. August 1, 1988; October 1, 1987;
February 1, 1986; November 1, 1978.

.0204 ACTIVITIES WHICH REQUIRE A PERMIT

No person shall do any of the things or carry out any of the activities contained in N.C.G.S. 143-215.1(a)(1) thru (10) until or unless the person shall have applied for and received a permit from the Director (or if appropriate an approved local sewer system program) and shall have complied with the conditions prescribed in the permit.

History Note: Statutory Authority G.S. 143-215.3(a)(1);
143-215.1; 130A-335;
Eff. February 1, 1976.
Amended Eff. October 1, 1987;
February 1, 1986.

.0205 APPLICATION: PERMIT FEES: SUPPORTING INFORMATION:
REQUIREMENTS

(a) Jurisdiction. Applications for sewer system extensions under the jurisdiction of a local sewer system program shall be made in accordance with applicable local laws and ordinances. Applications for permits from the Division shall be made in accordance with this rule as follows.

(b) Applications. Application for a permit must be made in triplicate on official form completely filled out, where applicable, and fully executed in the manner set forth in Rule .0206 of this Section. A processing fee as described herein must be submitted with each application in the form of a check or money order made payable to N.C. Department of Environment, Health, and Natural Resources. Applications may be

returned if not accompanied by the processing fee. The signature of the consulting engineer or other agent will be accepted on the application only if accompanied by a letter of authorization.

(c) Permit Fees.

(1) Permit Application Processing Fee. For every application for a new or revised permit under this Section, a nonrefundable application processing fee in the amount stated in subparagraph (5) of this paragraph shall be submitted at the time of application.

- (A) Each permit or renewal application is incomplete until the application processing fee is received;
- (B) For a facility with multiple treatment units under a single permit, the processing fee shall be set by the total design treatment capacity;
- (C) No processing fee will be charged for modification of unexpired permits when the modifications are initiated by the Director;
- (D) A processing fee of fifty dollars (\$50.00) will be charged for name changes;
- (E) A full application processing fee will be charged for all modifications except for name changes; this fee will be in the same amount as shown in subparagraph (5) of paragraph (c) of this rule for new applications/modifications.
- (F) Permittees requesting special orders by consent, judicial orders or flow increases under G.S. 143-215.67(b), will pay a fee of four hundred dollars (\$400.00).

(2) Annual Administering and Compliance Monitoring Fees. An annual fee for administering and compliance monitoring shall be charged in each year of the term of every renewable permit according to the schedule in subparagraph (5) of this paragraph. Annual fees will not be charged for permits which do not require renewal.

- (A) Collection of annual fees shall begin upon approval of this Rule;
- (B) Annual administering and compliance monitoring fees must be paid for any facility operating on an expired permit after the effective date of this Rule. The Director shall establish an anniversary date for such a facility and notify the responsible party of the requirement to pay annual fees.
- (C) For a facility with multiple treatment units under a single permit, the annual administering and compliance monitoring fee shall be set by the single treatment system with the highest fee in the fee schedule.
- (D) A person with only one permit will be billed annually on an anniversary date to be determined by the Division. This will normally be the first day of the month of permit issuance;

- (E) A person with multiple permits may have annual administering and compliance monitoring fees consolidated into one annual bill;
 - (F) Any permittee which has maintained full compliance with all permit conditions during the previous calendar year will have its administering and compliance monitoring annual fee reduced by twenty-five (25) percent. Permittees operating under interim limits, judicial orders, or special orders by consent will not be eligible for any discount. Full compliance will be established if it can be certified by the Director that no Notice of Noncompliance or Notice of Violation was sent to the permittee during the compliance period being considered. If a Notice of Noncompliance or a Notice of Violation was based on erroneous information, the Director can send a letter of correction to the permittee clearing the record for compliance purposes.
 - (G) A change in the facility which changes the annual fee set by subparagraph (5) of paragraph (c) of this Rule will result in the revised annual fee being billed in all remaining whole permit years.
 - (H) Closed-loop recycle or evaporative systems, which store or recycle industrial waste and do not discharge to the surface water, groundwater or land surface, shall be charged a constant annual administering and compliance monitoring fee for all sizes of facilities at the fee amount shown by subparagraph (5) of paragraph (c) of this Rule.
- (3) No fees are required to be paid under this Rule by a farmer who submits an application or receives a permit that pertains to farming operations.
- (4) Failure to pay an annual administering and compliance monitoring fee within thirty (30) days after being billed may cause the Division to initiate action to revoke the permit.

(5) Schedule of Nondischarge Fees:

| CATEGORY | PERMIT APPLICATION PROCESSING FEE | | ANNUAL ADMINISTERING AND COMPLIANCE MONITORING FEE | |
|---|--------------------------------------|-------------------|---|------------------|
| | STANDARD | SIMPLE RENEWAL | STANDARD | IN COMPLIANCE |
| >1,000,000 GPD | | | | |
| Industrial | 400 | 300 | 1500 | 1125 |
| Domestic/Cooling Water | 400 | 300 | 1200 | 900 |
| 10,001 - 1,000,000 GPD | | | | |
| Industrial | 400 | 250 | 800 | 600 |
| Domestic/Cooling Water | 400 | 250 | 600 | 450 |
| 1,001 - 10,000 GPD | | | | |
| Industrial | 400 | 200 | 600 | 450 |
| Domestic/Cooling Water | 400 | 200 | 450 | 300 |
| ≤1000 GPD and Single family dwelling | 240 | 120 | 0 | 0 |
| Sludge ≤300 acres | 400 | 250 | 600 | 450 |
| Sludge >300 acres | 400 | 250 | 1000 | 750 |
| <u>Land Application of Residues from Agricultural Products & Processing ≤300 acres</u> | 400 | 250 | 600 | 450 |
| <u>Land Application of Residues from Agricultural Products & Processing >300 acres</u> | 400 | 250 | 1000 | 750 |
| Sewer extensions (nondelegated) | 400 | - | - | - |
| Sewer extensions (delegated to municipalities) | 200 | - | - | - |
| Closed-loop recycle or evaporative system | 400 | 200 | 300 | 225 |

(6) If the total payment for fees required for all permits under G.S. 143-215.3(a)(1b) for any single facility will exceed seventy-five hundred dollars (\$7500.00) per year, then the total for all these fees will be reduced for this facility so that the total payment is seventy-five hundred dollars (\$7500.00) per year.

(7) A portion of the permit application processing fees shown in the fee schedule in subparagraph (5) of this paragraph will be transferred into the Wastewater Treatment Works Emergency Maintenance, Operation and Repair Fund according to the following schedule:

- (A) All nonmunicipal facilities treating domestic wastewater with design flows of 100,000 gallons per day or less, except single family dwellings and facilities with design flows of less than 1000 GPD, seventy-five dollars (\$75.00);
- (B) Single family dwellings and facilities with design flows of less than 1000 GPD, forty dollars (\$40.00); and
- (C) All other facilities, zero.

(8) When the total value of the Wastewater Treatment Works Emergency Maintenance, Operation and Repair Fund, as certified by the State Treasurer, is at least seven hundred fifty thousand dollars (\$750,000.00) at the end of a quarter, the application processing fees for facilities with capacities of one hundred thousand gallons per day (100,000 GPD) or less shall be reduced by the amounts being transferred under subparagraph (7) of this paragraph. This reduction shall continue until, at the end of some subsequent quarter, the State Treasurer certifies that the fund's balance is less than seven hundred fifty thousand dollars (\$750,000.00), in which case the full amount of the application processing fees as listed in subparagraph (5) of this paragraph shall be charged.

(9) In order to avoid violation of the statutory limit that total permit fees collected in any year not exceed thirty percent (30%) of the total budgets from all sources of environmental permitting and compliance programs, the Division shall in the first half of each state fiscal year project revenues from all sources including fees for the next fiscal year. If this projection shows that the statutory limit will be exceeded, rulemaking shall be commenced in order to have an appropriately adjusted fee schedule which will avoid excessive revenue collection from permit fees.

(d) Supporting Documents and Information. This paragraph outlines those supporting documents and information which must be submitted for sewers, sewer extensions, and disposal systems and wastewater treatment works which do not discharge to the surface waters of the state.

(1) For all facilities:

(A) Required sets of plans and specifications:

- (i) regular projects -- three sets of detailed plans and specifications signed and sealed by a professional engineer;
- (ii) federal and state grants projects -- four sets of detailed plans and specifications plus federal assurances required by appropriate federal agency;

(B) specifications describing all materials to be used, methods of construction and means for assuring the quality and integrity of the finished project;

- (C) A general location map, showing orientation of the facility with reference to at least two (2) geographic references (numbered roads, named streams/rivers, etc.);
 - (D) A description of the origin, type and flow of waste to be treated. Waste analysis must be extensive enough to allow a complete evaluation of the system to treat the waste and any potential impacts on the waters of the state;
 - (E) When required, a statement submitted that the wastewater treatment facility involved will be properly disconnected and the wastewater discharged into an adequate district or municipal system when it becomes available;
 - (F) Permits which result in construction of facilities which will be funded by public monies may require environmental documentation pursuant to the North Carolina Environmental Policy Act. Permit applications for which such documentation is required will not be considered complete until supported by the required documentation;
 - (G) If more than one contiguous acre of land is to be uncovered by a project, documentation should be supplied verifying that the applicant has completed or is working with the appropriate regional engineer of the Land Quality Section on the completion of an erosion control plan.
- (2) For wastewater facilities specified in G.S. 143-215.1(d1) that are or will be jointly or commonly owned, either a copy of a properly executed operational agreement or evidence to show that the applicant has been designated as a public utility by the State Utilities Commission.
- (3) For sewers and sewer extensions:
- (A) design flow;
 - (B) rate of infiltration in gallons per day per inch of pipe diameter per mile of pipe;
 - (C) letter of agreement from owner or proper official of treatment works accepting the wastewater, if application is not submitted by owner or proper official having charge of treatment works;
 - (D) plan and profile of sewers, showing their proximity to other utilities and natural features, such as water supply lines, water lines, storm drains, surface waters, roads and other trafficked areas.
 - (E) Construction of sewers and sewer extensions are prohibited in the following areas unless the specified determinations are made
 - (i) in a natural area designated on the State Registry of Natural Heritage Areas by a protection agreement between the owner and

- the Secretary of the N. C. Department of Natural Resources and Community Development, unless the EMC agrees that no prudent, feasible or technologically possible alternative exists;
- (ii) in a natural area dedicated as a North Carolina Nature Preserve by mutual agreement between the owner and State of North Carolina (Governor and Council of State), unless the EMC recommends and the Governor and Council of State agree that no prudent, feasible or technologically possible alternative exists.
- (4) For pumping stations:
- (A) design calculations for pump and force main sizing;
 - (B) plan and profile of sewers, showing their proximity to other utilities and natural features, such as water supply lines, water lines, storm drains, surface waters, roads and other trafficked areas;
 - (C) pump station site location map;
 - (D) name and classification of adjacent surface waters which could be affected by a failure.
- (5) For subsurface ground absorption systems:
- (A) soil evaluation of the disposal site conducted by a soils scientist to adequately evaluate the soils to be utilized for treatment and disposal down to a depth of seven feet to include, but is not limited to, field descriptions of texture; color; structure, the depth thickness and type of restrictive horizons; the presence or absence and depth of evidence of any seasonal high water table; recommendations concerning application rates of liquids, solids, and other wastewater constituents; field estimates of saturated hydraulic conductivity in the most restrictive horizon; and cation exchange capacity. Applicants may be required to dig pits when necessary for proper evaluation of the soils at the site;
 - (B) design data;
 - (C) plans of complete system including plan and profile and cross section views for all relevant system components;
 - (D) a map of the site, with topographic contour intervals not exceeding 2 feet and showing all facility-related structures within the

- property boundary and the location of all wells, springs, lakes, ponds, or other surface drainage features within 500 feet of the principal waste treatment/disposal site(s);
- (E) For systems treating industrial waste and any system with a design flow of over 25,000 gpd, a hydrogeologic and soils description of the subsurface to a depth of 20 feet or bedrock, whichever is less. The number of borings shall be sufficient to define the following for the area underlying each major soil type at the disposal site:
 - (i) significant changes in lithology underlying the site;
 - (ii) the vertical permeability of the unsaturated zone and the hydraulic conductivity of the saturated zone, and
 - (iii) depth to the mean seasonal high water table (if definable from soil morphology or from evaluation of other applicable available data);
 - (F) for all projects with a design flow of greater than 25,000 gpd, a determination of transmissivity and specific yield of the unconfined aquifer based on withdrawal or recharge test;
 - (G) information on the location, construction details, and primary usage (drinking water, process water, monitoring, etc.) of all wells within 500 feet of the waste treatment/disposal area;
 - (H) Degree of treatment (primary, secondary, tertiary);
 - (I) For industrial waste a complete chemical analysis of the typical wastewater or sludge to be discharged, may include but not limited to Total Organic Carbon, BOD, COD, Chlorides, Phosphorus, Ammonia, Nitrates, Phenol, Total Trihalomethanes, Toxicity test parameters, Total Halogenated Compounds, Total Coliforms and Total Dissolved Solids;
 - (J) proposed location and construction details of a monitoring well network.
- (6) For land application of sludge on other than dedicated sites:
- (A) a map of the site with topographic contour intervals not exceeding 10 feet or 25% of total site relief, whichever is less, and showing all facility related structures within the property boundary and the location of all wells, pits and quarries, springs, lakes, ponds, or other surface drainage features within 500 feet of the disposal site;

- (B) a soil scientist's recommendations concerning application rates of liquids, solids, minerals and other wastewater constituents;
- (C) a project evaluation conducted by an agronomist including recommendations concerning cover crops and their ability to accept the proposed application rates of liquids, solids, minerals, and other wastewater constituents;
- (D) project description for the land application system, including treatment, storage, land application method, equipment, and a receiver management plan;
- (E) for industrial wastes, a complete chemical analysis of the typical wastewater or sludge to be applied may include, but is not limited to % Total Solids, pH, NH₃-N, NO₃-N, TKN, Total Phosphorus, Potassium, Toxicity test parameters, Cadmium, Chromium, Copper, Lead, Nickel, Zinc, Mercury, Arsenic, Selenium;
- (F) information on the location, construction details, and primary usage (drinking water, process water, monitoring, etc.) of all wells within 500 feet of the disposal site;
- (G) For sites previously permitted:
Soil evaluation of the application sites by a soils scientist to confirm or establish the soil map through field evaluation of soil texture; color; structure; the depth, thickness, and type of restrictive horizons; the presence or absence of seasonal high water table within three vertical feet of the surface or subsurface application depth; and cation exchange capacity;
- (H) For sites not previously permitted:
 - (i) A USDA-SCS soils map of the application site. In addition, a soil evaluation of the application site by a Soils Scientist, to verify the accuracy of the SCS soils map regarding the presence or absence of a seasonally high water table or bedrock within three vertical feet of the deepest point of sludge application; and cation exchange capacity;
 - (ii) If a USDA-SCS soils map of the application site is not available, soil evaluation of the disposal site by a soils scientist down to a depth of seven feet or the "C" horizon, whichever is less, to develop a soil map through field evaluation of soil texture; color; the depth, thickness, and type of restrictive horizons; the presence or absence of a seasonal high water table, or bedrock within three vertical feet of the deepest point of sludge application; and cation exchange capacity.

- (7) For spray irrigation, land application on dedicated sites, or sludge disposal systems and treatment works, except for rapid infiltration disposal systems and systems for composting sludge for land application:
- (A) map of the site, with topographic contour intervals not exceeding 10 feet or 25 percent of total site relief, whichever is less, and showing all facility-related structures within the property boundary and the location of all wells, pits and quarries, springs, lakes, ponds, or other surface drainage features within 500 feet of the waste treatment/disposal site(s);
 - (B) the information specified in subsections (d) (5) (E), (F), (H) and (I) of this Rule;
 - (C) soil evaluation of the disposal site conducted by a soils scientist to adequately evaluate the soils to be utilized for treatment and disposal down to a depth of seven feet to include, but is not limited to field descriptions of texture; color; structure; the depth; thickness and type of restrictive horizons; the presence or absence and depth of evidence of any seasonal high water table; recommendations concerning application rates of liquids, solids, and other wastewater constituents; field estimates or measurements of saturated hydraulic conductivity in the most restrictive horizon; and cation exchange capacity. Applicants may be required to dig pits when necessary for proper evaluation of the soils at the site.
 - (D) a project evaluation and a receiver site management plan (if applicable) prepared by a agronomist and his recommendations concerning cover crops and their ability to accept the proposed application rates of liquid, solids, minerals and other constituents of the wastewater;
 - (E) complete plans and specifications for the entire system, including treatment, storage, application, and disposal facilities and equipment. Treatment works previously permitted will not need to be shown, unless they are directly tied into the new units or are critical to the understanding of the complete process;
 - (F) a complete chemical analysis of the typical wastewater or sludge to be

- treated, may include but not limited to
% Total Solids, pH, Total Organic Carbon, BOD,
COD, Chlorides, Sodium, Phosphorus, Sulfides,
Bicarbonate, Magnesium, Nitrates, Phenol, Total
Trihalomethanes, EP Toxicity test parameters,
Total Halogenated Compounds, Total Coliforms
and Total Dissolved Solids;
- (G) proposed location and construction details of a monitoring well network;
 - (H) information on the location, construction details, and primary usage (drinking water, process water, monitoring, etc.) of all wells within the 500 feet of the disposal site.
- (8) For systems for composting sludge for land application:
- (A) a map of the site, with topographic contour intervals not exceeding 10 feet or 25 percent of total site relief, whichever is less, and showing all facility-related structures within the property boundary and the location of all wells, springs, lakes, ponds, or other surface drainage features within 500 feet of the principal waste treatment/disposal site(s).
 - (B) complete plans and specifications for the entire system, including facilities and equipment for treatment, storage and preparation for disposal;
 - (C) for industrial waste, a hydrogeologic description of the subsurface, to a depth of 20 feet or bedrock, whichever is less. The number of borings shall be sufficient to define the following for the area underlying each major soil type at the disposal site:
 - (i) significant changes in lithology underlying the site;
 - (ii) the vertical permeability of the unsaturated zone and the hydraulic conductivity of the saturated zone, and
 - (iii) depth to the mean seasonal high water table (if definable from soil morphology or from evaluation of other applicable available data)
 - (D) proposed location and construction details of a monitoring well network.
- (9) For closed system or recycle disposal systems and treatment works:
- (A) for industrial waste, a complete chemical analysis of the typical wastewater or sludge to be discharged, may include but not limited to Total Organic Carbon, BOD, COD, Chlorides, Phosphorus, Nitrates, Phenol, Total Trihalomethanes, EP Toxicity test parameters, Total Halogenated Compounds, Total Coliforms and Total Dissolved Solids;

- (B) plans and specifications of the entire system. When necessary for an understanding of a treatment process, the applicant should also submit process flow diagrams;
 - (C) For industrial waste, a hydrogeologic description of the subsurface to a depth of 20 feet or bedrock, whichever is less. The number of borings shall be sufficient to define the following for the area underlying each major soil type at the disposal site:
 - (i) significant changes in lithology underlying the site;
 - (ii) the vertical permeability of the unsaturated zone and the hydraulic conductivity of the saturated zone, and
 - (iii) depth to the mean seasonal high water table (if definable from soil morphology or from evaluation of other applicable available data)
- (10) For RAPID INFILTRATION SYSTEMS:
- (A) a map of the site, with a horizontal scale of 1 inch equal 1,000 feet or less and topographic contour intervals not exceeding 2 feet or 25 percent of the total site relief, whichever is less, and showing all facility-related structures within the property boundary and the location of all wells, springs, lakes, ponds or other surface drainage features within 500 feet of the principal waste treatment/disposal site(s);
 - (B) hydrogeological information describing the vertical and horizontal extent and lithologic character of the unconfined aquifer and its hydraulic relationship to the first confined aquifer beneath the site and the vertical permeability and thickness of the confining bed. The information must also include a determination of the transmissivity and specific yield of the unconfined aquifer, determined by either a withdrawal or recharge test;
 - (C) a determination of the quality and movement of groundwater and surface water in the area and an evaluation of the impact that the proposed system will have on water levels, movement and quality of waters;
 - (D) complete plans and specifications for the entire system, including treatment storage and rotary distributor facilities and equipment;
 - (E) the information specified in .0205(d)(5)(H)
 - (F) proposed location and construction details of monitoring well network;
 - (G) proposed monitoring plan including the method of determining groundwater levels and quality of water parameters and frequency of sampling.

- (11) For land application of agricultural products and processing residuals on other than dedicated sites:
- (A) a map of the site with topographic contour intervals not exceeding 10 feet or 25% of total site relief, whichever is less, and showing all facility related structures within the property boundary and the location of all wells, pits and quarries, springs, lakes, ponds, or other surface drainage features within 500 feet of the application site;
 - (B) a soil scientist's recommendations concerning application rates of liquids, solids, minerals and other wastewater constituents;
 - (C) a project evaluation conducted by an agronomist including recommendations concerning cover crops and their ability to accept the proposed application rates of liquids, solids, minerals, and other residual constituents;
 - (D) project description for the land application system, including treatment, storage, land application method, equipment, and a receiver management plan;
 - (E) a complete chemical analysis of the typical residual to be applied may include, but is not limited to % Total Solids, pH, NH₃-N, NO₃-N, TKN, Total Phosphorus, Potassium, Toxicity test parameters, Cadmium, Chromium, Copper, Lead, Nickel, Zinc, Mercury, Arsenic, Selenium;
 - (F) information on the location, construction details, and primary usage (drinking water, process water, monitoring, etc.) of all wells within 500 feet of the application site;
 - (G) For sites previously permitted:
Soil evaluation of the application sites by a soils scientist to confirm or establish the soil map through field evaluation of soil texture; color; structure; the depth, thickness, and type of restrictive horizons; the presence or absence of seasonal high water table within three vertical feet of the surface or subsurface application depth; and cation exchange capacity;
 - (H) For sites not previously permitted:
 - (i) A USDA-SCS soils map of the application site. In addition, a soil evaluation of the application site by a Soils Scientist, to verify the accuracy of the SCS soils map regarding the presence or absence of a seasonally high water table or bedrock within three vertical feet of the deepest point of sludge application; and cation exchange capacity;

- (ii) If a USDA-SCS soils map of the application site is not available, soil evaluation of the disposal site by a soils scientist down to a depth of seven feet or the "C" horizon, whichever is less, to develop a soil map through field evaluation of soil texture; color; the depth, thickness, and type of restrictive horizons; the presence of absence of a seasonal high water table, or bedrock within three vertical feet of the deepest point of sludge application; and cation exchange capacity.
- (I) If Best Management Practices (BMPs) are developed for a specific residual and approved by the Director, they may be submitted as part of the application package. Depending on the material and the detail of the BMP, some of the information contained in (A)-(H) above may not be required to be submitted as part of the application. Any item listed in (A)-(H) that is not submitted as part of the application must be specifically addressed in the BMP. Each application will be evaluated individually and the Director reserves the right to determine that a specific residual has characteristics that do not allow it to be covered by all or part of a BMP. BMPs are encouraged for all residuals but will not be considered as satisfying the requirements of any of the items in (A)-(H) unless the residuals are either low in volume or have low organic and nutrient levels.

History Note: Statutory Authority G.S. 143-215.3(a);
143-215.1; 143-215.3B(b);
Eff. February 1, 1976;
Amended Eff. August 1, 1988; October 1, 1987;
February 1, 1986; November 1, 1978.